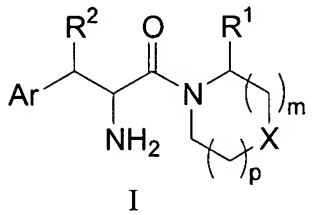
Amendment to the Claims:

Cancel Claims 19, 20, 25, and 27.

Amend Claim 28.

Listing of Claims:

1. (original) A compound of structural formula I:



I

or a pharmaceutically acceptable salt thereof; wherein
each n is independently 0, 1, or 2;
m and p are independently 0 or 1;
q is 1 or 2;

X is CH_2, S, CHF, or CF_2;

Ar is phenyl, unsubstituted or substituted with one to five R^3 substituents;

R^1 is hydrogen or cyano;

R^2 is selected from the group consisting of

C_{1-10} alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,

C_{2-10} alkenyl, wherein alkenyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,

$(CH_2)_n$-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected hydroxy, halogen, CO_2H, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, CO_2H, C_{1-6}

alkyloxycarbonyl, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, CO_2H, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-C_{3-6} cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, CO_2H, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_nCOOH$,

$(CH_2)_nCOOC_{1-6}$ alkyl,

$(CH_2)_nCONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

or R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

wherein any methylene (CH_2) carbon atom in R^2 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, C_{1-4} alkyl, and C_{1-4} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

each R^3 is independently selected from the group consisting of

halogen,

cyano,

hydroxy,

C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens,

C_{1-6} alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,

phenyloxy, unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, CO_2H, cyano, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

$(CH_2)_n$-NR^4R^5,

$(CH_2)_n$-$CONR^4R^5$,

$(CH_2)_n$-$OCONR^4R^5$,

$(CH_2)_n$-SO_2NR^4R5,

$(CH_2)_n$-SO_2R^6,

$(CH_2)_n$-$NR^7SO_2R^6$,

$(CH_2)_n$-$NR^7CONR^4R^5$,

$(CH_2)_n$-NR^7COR^7,

$(CH_2)_n$-$NR^7CO_2R^6$,

$(CH_2)_n$-COOH,

$(CH_2)_n$-$COOC_{1-6}$ alkyl,

$(CH_2)_q$-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, CO_2H, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl, C_{3-6} cycloalkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_q$-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, CO_2H, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl, C_{3-6} cycloalkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_q$-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, CO_2H, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl, C_{3-6} cycloalkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-C_{3-6} cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

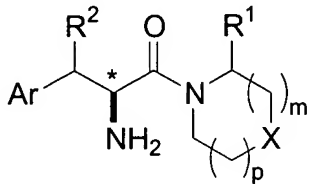
wherein any methylene (CH_2) carbon atom in R^3 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, C_{1-4} alkyl, and C_{1-4}

alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

R^6 is independently selected from the group consisting of tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and wherein any methylene (CH_2) carbon atom in R^6 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C_{1-4} alkyl unsubstituted or substituted with one to five halogens; and

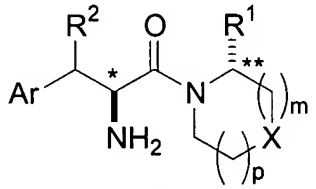
each R^7 is hydrogen or R^6.

2. (original) The compound of Claim 1 wherein the carbon atom marked with an * has the stereochemical configuration as depicted in formula Ia:



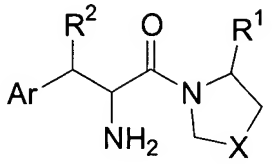
(Ia)

3. (original) The compound of Claim 2 wherein the carbon atom attached to R^1 marked with an ** has the stereochemical configuration as depicted in formula Ib:



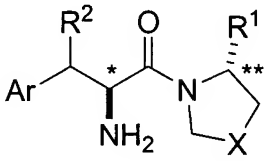
(Ib)

4. (original) The compound of Claim 1 of the structural formula Ic:



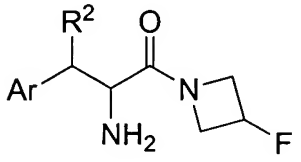
(Ic)

5. (original) The compound of Claim 4 wherein the carbon atom marked with an * and the carbon atom marked with an ** have the stereochemical configurations as depicted in formula Id:



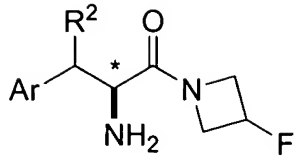
(Id)

6. (original) The compound of Claim 1 of the structural formula Ie



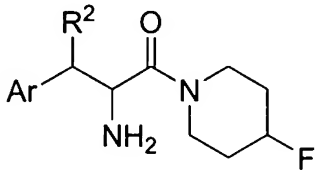
(Ie)

7. (original) The compound of Claim 6 wherein the carbon atom marked with an * has the stereochemical configuration as depicted in formula If:



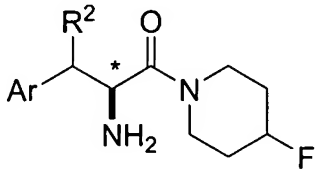
(If)

8. (original) The compound of Claim 1 of the structural formula Ig



(Ig)

9. (original) The compound of Claim 8 wherein the carbon atom marked with an * has the stereochemical configuration as depicted in formula Ih:



(Ih)

10. (original) The compound of Claim 1 wherein R^2 is selected from the group consisting of

C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,

C_{2-6} alkenyl, wherein alkenyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,

$(CH_2)_n$-C_{3-6} cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, CO_2H, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_nCOOH$,

$(CH_2)_nCOOC_{1-6}$ alkyl, and

$(CH_2)_nCONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

or R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

wherein any methylene (CH_2) carbon atom in R^2 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, C_{1-4} alkyl, and C_{1-4} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens.

11. (original) The compound of Claim 10 wherein R^2 is selected from the group consisting of

C_{1-3} alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,

CH_2-C_{3-6} cycloalkyl,

COOH,

$COOC_{1-6}$ alkyl, and

$CONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

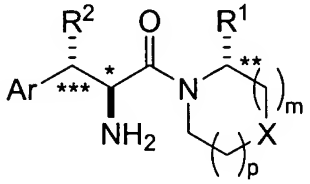
or R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from pyrrolidine, piperidine, piperazine, and morpholine wherein said

heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens.

12. (original) The compound of Claim 11 wherein R^2 is selected from the group consisting of

methyl,
ethyl,
CH_2-cyclopropyl,
COOH,
COOMe,
COOEt,
$CONMe_2$,
$CONH_2$,
CONHMe,
CONHEt,
pyrrolidin-1-ylcarbonyl,
azetidin-1-ylcarbonyl, and
[(tetrazol-5-yl)amino]carbonyl.

13. (original) The compound of Claim 1 wherein the carbon atom marked with an *, the carbon atom attached to R^1 marked with an **, and the carbon atom attached to R^2 marked with an *** have the stereochemical configurations as depicted in formula Ii:



(Ii)

R^2 is selected from the group consisting of

C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
$(CH_2)_n$-C_{3-6} cycloalkyl,
COOH,

$COOC_{1-6}$alkyl, and

$CONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

or wherein R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

each R^3 is independently selected from the group consisting of:

halogen,

hydroxy,

C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens,

C_{1-6} alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,

phenyloxy, unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, cyano, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

$(CH_2)_n$-C_{3-6} cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens.

14. (original) The compound of Claim 13 wherein R^2 is selected from the group consisting of

methyl,

ethyl,

CH_2-cyclopropyl,

COOH,

COOMe,

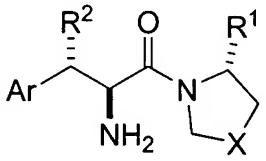
COOEt,

$CONMe_2$,
$CONH_2$,
CONHMe,
CONHEt,
pyrrolidin-1-ylcarbonyl,
azetidin-1-ylcarbonyl, and
[(tetrazol-5-yl)amino]carbonyl.

15. (original) The compound of Claim 14 wherein R^3 is selected from the group consisting of:

fluoro,
chloro,
bromo,
trifluoromethyl,
trifluoromethoxy, and
methoxy.

16. (original) The compound of Claim 1 of the structural formula Ij



(Ij)

wherein X is CH_2, S, CHF, or CF_2;

Ar is phenyl, unsubstituted or substituted with one to five R^3 substituents;

R^1 is hydrogen or cyano;

R^2 is selected from the group consisting of

C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
$(CH_2)_n$-C_{3-6} cycloalkyl,
COOH,
$COOC_{1-6}$ alkyl, and

$CONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

or R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

each R^3 is independently selected from the group consisting of:

halogen,

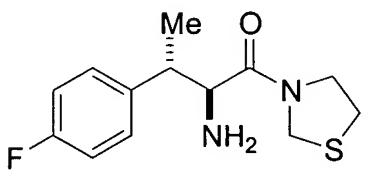
C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens,

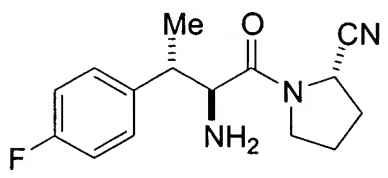
C_{1-6} alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,

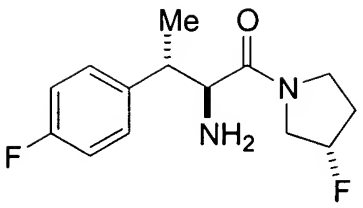
phenyloxy, unsubstituted or substituted with one to three substituents independently selected from halogen and cyano, and

phenyl$(CH_2)_n$CON(Me)-, wherein phenyl is unsubstituted or substituted with one to three substituents independently selected from halogen, trifluoromethyl, and C_{1-4} alkyl.

17. (original) The compound of Claim 16 of the structural formula selected from the group consisting of



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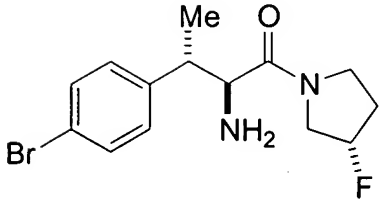
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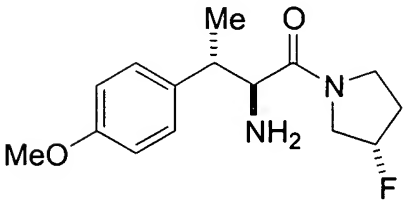
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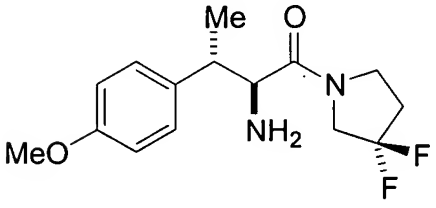
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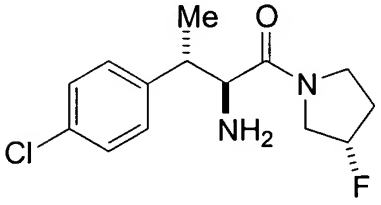
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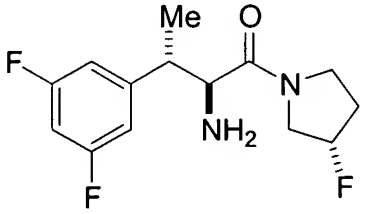
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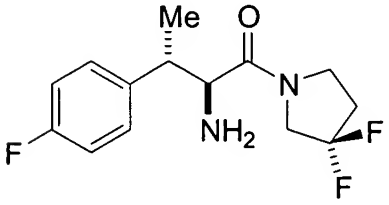
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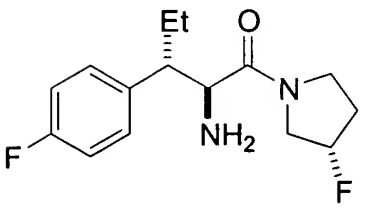
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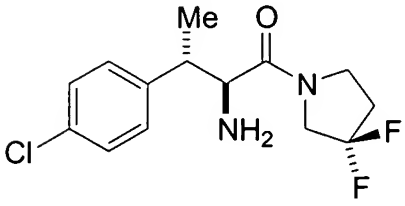
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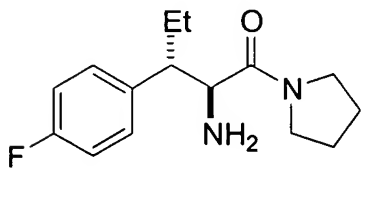
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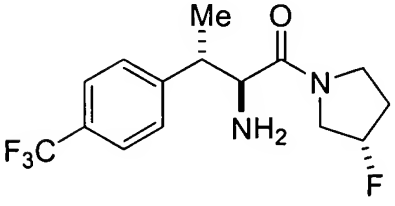
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NH2
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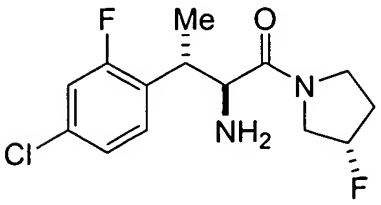
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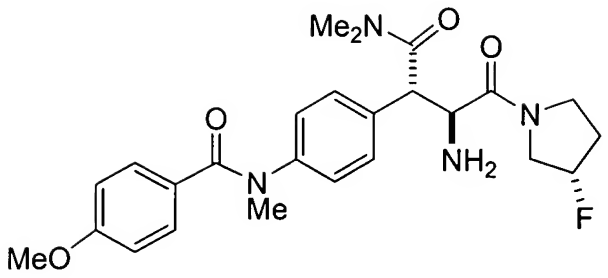

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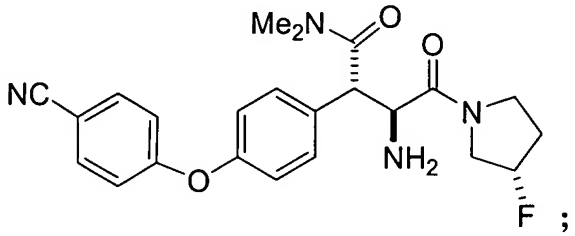

;

or a pharmaceutically acceptable salt thereof.

18. (original) A pharmaceutical composition which comprises a compound of Claim 1 and a pharmaceutically acceptable carrier.

19-20. (cancelled)

21. (original) A method for treating non-insulin dependent (Type 2) diabetes in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

22. (original) A method for treating hyperglycemia in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

23. (original) A method for treating obesity in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

24. (original) A method for treating one or more lipid disorders selected from the group of dyslipidemia, hyperlipidemia, hypertriglyceridemia, hypercholesterolemia, low HDL

and high LDL in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

25. (cancelled)

26. (original) The pharmaceutical composition of Claim 18 further comprising one or more additional active ingredients selected from the group consisting of:

(a) a second dipeptidyl peptidase IV inhibitor;

(b) an insulin sensitizer selected from the group consisting of a PPARγ agonist, a PPARα/γ dual agonist, a PPARα agonist, a biguanide, and a protein tyrosine phosphatase-1B inhibitor;

(c) an insulin or insulin mimetic;

(d) a sulfonylurea or other insulin secretagogue;

(e) an α-glucosidase inhibitor;

(f) a glucagon receptor antagonist;

(g) GLP-1, a GLP-1 mimetic, or a GLP-1 receptor agonist;

(h) GIP, a GIP mimetic, or a GIP receptor agonist;

(i) PACAP, a PACAP mimetic, or a PACAP receptor agonist;

(j) a cholesterol lowering agent such as (i) HMG-CoA reductase inhibitor, (ii) sequestrant, (iii) nicotinyl alcohol, nicotinic acid or a salt thereof, (iv) PPARα agonist, (v) PPARα/γ dual agonist, (vi) inhibitor of cholesterol absorption, (vii) acyl CoA:cholesterol acyltransferase inhibitor, and (viii) anti-oxidant;

(k) a PPARδ agonist;

(l) an antiobesity compound;

(m) an ileal bile acid transporter inhibitor;

(n) an anti-inflammatory agent; and

(o) an antihypertensive agent.

27. (cancelled)

28. (currently amended) A method of treating diabetes in a mammal in need thereof comprising administering to the mammal a therapeutically effective amount of a compound of Claim 1 in combination with metformin ~~the PPARα/γ dual agonist KRP-297~~.